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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/632,051

Applicant(s)

GRONEMEYER ET AL.

Examiner

DUC M. NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

This action is in response to applicant's response filed on 12/16/09. Claims 1-33 are now pending in the present application.

Appeal Brief

1. In view of the newly discovered reference to **Lindlar** et al (US 7,149,473) that would provide a better prosecution, PROSECUTION IS HEREBY REOPENED. A new ground of rejection set forth below for better prosecution of the application.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1-3, 5-12** are rejected under 35 U.S.C. 102(e) as being anticipated by

Lindlar et al (US 7,149,473).

Regarding claim **1**, **Lindlar** discloses a radio frequency (RF) to baseband interface providing power control over an R.F section that processes RF signals and that is coupled to a baseband section that processes baseband signals, the interface comprising:

- a bi-directional message serial message interface (see Table 1 and col. 2, lines 18-58) for communicating a power control message from the baseband section to the RF section that is associated with power consumption of the RF section as claimed (see Fig. 1b, col. 2, lines 52-54, col. 6, lines 21-30 and col. 7, lines 22-33 regarding "the Power-Supply Regulation Circuitry 240 is placed into a low power consumption standby state and the Reference Oscillator 250 is switched off" or col. 7, lines 1-7 regarding the control signal "PAON" for switching the power amplifier ON/OFF); and
- a data interface for communicating data from the RF section to the baseband section as claimed (see Tables 1, 2 and col. 2, lines 18-58).

Regarding claims **2, 8, 11**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach a power control bit as claimed (see Fig. 1b and col. 6, lines 21-30 regarding "A LOW output from the OR gate 236 places Power-Supply Regulation Circuitry 240 into a low power consumption standby

state and switches the Reference Oscillator 250 off" or col. 7, lines 1-7 regarding the control signal "PAON" for switching the power amplifier ON/OFF).

Regarding claims **3, 12**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the power state is one of a power-up state and a power-down state as claimed (see col. 2, lines 52-54 regarding signal SleepX for controlling power of RF circuitry or col. 6, line 67 – col. 7, line 7 regarding the signal "PAON" for controlling the power of power amplifier ON/OFF).

Regarding claim **5**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the pre-selected circuitry is at least one of a frequency divider, oscillator, and amplifier as claimed (see col. 6, lines 21-30 regarding "A LOW output from the OR gate 236 places Power-Supply Regulation Circuitry 240 into a low power consumption standby state and switches the Reference Oscillator 250 off" or col. 7, lines 1-7 regarding the control signal "PAON" for switching the power amplifier ON/OFF).

Regarding claims **6, 9**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the message interface is a serial message interface as claimed (see col. 2, lines 18-58).

Regarding claims **7, 10**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the message interface comprises a message-in signal line, a message-out signal line and a message clock signal line as claimed (see col. 2, lines 18-58, where a bidirectional signal line would read on in or out signal lines).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **4, 13** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lindlar** in view of **Molnar et al** (US 2002/0142741).

Regarding claims **4, 13**, the claims are rejected for the same reason as set forth in claim 1 above. However, **Lindlar** fails to teach a plurality of control bits for a power control message. However, **Molnar** teaches a digital serial interface for a baseband digital control signal of a transceiver, where during the stand-by mode, the supply voltage to components (see [0070-0072] regarding modulator, frequency converter and synthesizer) of the RF section are shut down for power saving (see Fig. 3, Abstract, [0010, 0047, 000057-0060]). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **Lindlar** for further switching off components other than the oscillator or power amplifier (disclosed by Lindlar) during an operation mode as well, by providing a control message that would comprise a plurality of power control bits in the similar way as disclosed by **Molnar** (see [0072] regarding each data latch receives one bit of data from serial interface) individually specifying power states for a plurality of pre-selected circuitry in the RF section (see [0070-0072] regarding modulator, converter and synthesizer), thereby providing a plurality of control

bits for a power control message as claimed, for switching other components during one of standby mode, receive mode or transmit mode, for further reducing the power consumption of the RF section.

5. Claims **14-17, 19-20, 22-25, 27-31, 33** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lindlar et al** (US 7,149,473) in view of **Syrjarinne et al** (US 2003/0107514).

Regarding claim **14**, the claim is rejected for the same reason as set forth in claim 1 above. However, **Lindlar** fails to teach a GPS receiver. However, **Syrjarinne** discloses a GPS receiver (see Abstract). Since incorporating a GPS receiver in a mobile phone is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to further modify **Lindlar** for incorporating a GPS receiver to the Lindlar's phone as suggested by Syrjarinne (see [0013]), for utilizing advantages of the GPS receiver such as providing navigation capability. Note that **Syrjarinne** also suggests a low power standby mode for the GPS receiver for power saving (see [0029-0030]).

Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations *Ex parte Masham* 2 USPQ2d 1647 1987).

Regarding claim **15**, the claim is rejected for the same reason as set forth in claim 14 above. In addition, **Lindlar** would teach the message interface comprises a

message-in signal line, a message-out signal line and a message clock signal line as claimed (see col. 2, lines 18-58).

Regarding claim **16**, the claim is rejected for the same reason as set forth in claim 14 above. In addition, **Lindlar** would teach a power control bit as claimed (see Fig. 1b and col. 6, lines 21-30 regarding "A LOW output from the OR gate 236 places Power-Supply Regulation Circuitry 240 into a low power consumption standby state and switches the Reference Oscillator 250 off" or col. 7, lines 1-7 regarding the control signal "PAON" for switching the power amplifier ON/OFF).

Regarding claim **17**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the power state is one of a power-up state and a power-down state as claimed (see col. 2, lines 52-54 or col. 7, lines 1-7 regarding the signal "PAON" for switching the power amplifier ON/OFF).

Regarding claim **19**, the claim is rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the pre-selected circuitry is at least one of a frequency divider, oscillator, and amplifier as claimed (see col. 6, lines 21-30 regarding "A LOW output from the OR gate 236 places Power-Supply Regulation Circuitry 240 into a low power consumption standby state and switches the Reference Oscillator 250 off" or col. 7, lines 1-7 regarding the signal "PAON" for switching the power amplifier ON/OFF).

Regarding claim **20**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Lindlar** would teach the data interface includes a data clock signal line and data bit signal line as claimed (see col. 2, lines 22-58).

Regarding claims **22-25, 27-31, 33**, the claims are interpreted and rejected for the same reason as set forth in claims 14-17,19-20 above, wherein it is clear that the baseband processing section in **Lindlar** would comprise at least one address, data, and control line for communicating with a digital device (DSP, microprocessor) as claimed (see Figs. 1a, 3 and col. 3, lines 20-35).

6. Claims **18, 26, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lindlar** in view of **Syrjarinne** and further in view of **Molnar et al** (US 2002/0142741).

Regarding claims **18, 26, 32**, the claims are rejected for the same reason as set forth in claim 14 above. However, **Lindlar** fails to teach a plurality of control bits for a power control message. However, **Molnar** teaches a digital serial interface for a baseband digital control signal of a transceiver, where during the stand-by mode, the supply voltage to components (see [0070-0072] regarding modulator, frequency converter and synthesizer) of the RF section are shut down for power saving (see Fig. 3, Abstract, [0010, 0047, 000057-0060]). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **Lindlar** for further switching off components other than the oscillator or power amplifier (disclosed by Lindlar) during an operation mode as well, by providing a control message that would comprise a plurality of power control bits in the similar way as disclosed by **Molnar** (see [0072] regarding each data latch receives one bit of data from serial interface) individually specifying power states for a plurality of pre-selected circuitry in the RF section (see [0070-0072] regarding modulator, converter and synthesizer), thereby

providing a plurality of control bits for a power control message as claimed, for switching other components during one of standby mode, receive mode or transmit mode, for further reducing the power consumption of the RF section.

7. Claims **4, 13** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Molnar et al** (US 2002/0142741) in view of **Lindlar**.

Regarding claims **4, 13**, **Molnar** discloses a radio frequency (RF) to baseband interface providing power control over an R.F section that processes RF signals and that is coupled to a baseband section that processes baseband signals, the interface comprising:

- a serial message interface (see Fig. 3 and [0047]) for communicating a power control message from the baseband section to the RF section that is associated with power consumption of the RF section as claimed (see [0057-0060] and [0066-0072] regarding the baseband digital control signal, where any control signal relating to power usage of RF section would read on the "power control message" as claimed). Here, since the baseband digital control signal is used to supply a low voltage power to each local level shifter of components to be shut down during the standby mode, this digital control signal would read on the "power control message", and since this digital control signal would be utilized during the standby mode, this digital control signal would read on "a power control message that is **associated** with power consumption of the RF section" **as claimed**;

- a data interface for communicating data from the RF section to the baseband section (see Fig. 3 regarding ADC 320); and
- a plurality of power control bits (see [0072] regarding each data latch receives one bit of data from serial interface) individually specifying power states for a plurality of pre-selected circuitry in the RF section (see [0070-0072] regarding modulator, converter and synthesizer);

Therefore, **Molnar** would teach all the claimed limitations except for a bi-directional message for the serial interface 332. However, in an analogous art, **Lindlar** teaches a bi-directional message interface for communicating data and control signals (i.e, data, status, an operation mode such as transmit mode, receive mode, or sleep mode) between the baseband section and the RF section (see Table 1 and col. 2, lines 18-58). Since one skilled in the art would recognize the benefit of the bi-directional message interface in **Lindlar**, it would have been obvious to one skilled in the art at the time the invention was made to modify **Molnar** for providing a bi-directional message to the serial interface in **Molnar** as well, for utilizing advantages of two way communication such as communicating digital control signals between the baseband section and the RF section, for exchanging data, status, information according to the current operation mode of the transceiver.

8. Claims **18, 26, 32** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Molnar** in view of **Lindlar** and further in view of **Syrjarinne et al** (US 2003/0107514).

Regarding claims **18, 26, 32**, the claim is rejected for the same reason as set forth in claim 4 above. However, **Molnar** as modified fails to teach a GPS receiver. However, **Syrjarinne** discloses a GPS receiver (see Abstract). Since incorporating a GPS receiver in a mobile phone is well known in the art, it would have been obvious to one skilled in the art at the time the invention was made to further modify **Molnar** for incorporating a GPS receiver to the **Molnar's** transceiver as suggested by **Syrjarinne** (see [0013]), for utilizing advantages of the GPS receiver such as providing navigation capability. Note that **Syrjarinne** also suggests a low power standby mode for the GPS receiver for power saving (see [0029-0030]).

Allowable Subject Matter

9. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims **1-33** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-60 of copending Application No. **10/369853** in view of **Lindlar** et al (US 7,149,473).

Regarding claims 1-33, **10/369853** teaches a GPS receiver with a baseband serial interface for providing a bidirectional message serial interface between the RF section and the baseband section (see claims 1-60), which would include all the claimed limitations except for a power control message that is associated with power consumption of the RF section. However, in an analog art, **Lindlar** teaches a serial interface for a baseband digital control signal, wherein during the stand-by mode, Power-Supply Regulation Circuitry is placed into a low power consumption standby state and the Reference Oscillator 250 is switched off (see col. 6, lines 21-30 and col. 7, lines 22-34). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **10/369853** for power down the RF circuit during stand-by mode as suggested by Lindlar (see col. 2, lines 52-54), thereby providing a power control message as claimed, for prolonging battery time of the wireless device.

This is a provisional obviousness-type double patenting rejection.

12. Claim **21** is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. **7,634,025** in view of **Lindlar et al** (US 7,149,473).

Regarding claim **21**, **US 7,634,025** teaches a GPS receiver with a baseband serial interface for providing a bidirectional message serial interface between the RF section and the baseband section (see claims 1-3), which would include all the claimed limitations except for a power control message that is associated with power consumption of the RF section. However, in an analog art, **Lindlar** teaches a serial interface for a baseband digital control signal, wherein during the stand-by mode, Power-Supply Regulation Circuitry is placed into a low power consumption standby state and the Reference Oscillator 250 is switched off (see col. 6, lines 21-30 and col. 7, lines 22-34). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **US 7,634,025** for power down the RF circuit during stand-by mode as suggested by **Lindlar** (see col. 2, lines 52-54), thereby providing a power control message as claimed, for prolonging battery time of the wireless device.

Response to Arguments

13. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection.

Here are some responses regarding the Power Management Integrated Circuit (PMIC) as argued by Applicant in the Appeal brief that has been considered but they are not persuasive,

a- the PMIC controls the power supply voltages by simply allocating particular voltages for each component in the RF section and also for the baseband processor according to their requirements, the PMIC might also control other functions such as surge protection. However, the PMIC rarely performs switching off power supply voltages during standby mode because it does not control the operation of the phone. It is the baseband processor that commands a switch(s) located between the PMIC and components of RF section to switch on or off according to an operation mode of the phone (i.e, standby or wake-up mode) because the baseband processor controls an operation mode of the phone.

b- it would have been obvious to one skilled in the art to rearrange the PMIC to locate either in the baseband section or in the RF section. See *In re Japikse*, 86 USPQ 70 (CCPA 1950). By arranging the PMIC in the RF section, the power control limitation would be made obvious by Molnar regardless of whether the PMIC controls the on/off switching operation (for example, assume that the PMIC performs the switching according to the command obtained from the baseband processor), or just by simply locating the switch(s) in the RF section.

c- any control signal relating to "power usage" of RF section would read on the "power control message" as claimed, noting that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

For foregoing reasons, the examiner believes that the pending claims are not allowable over the cited prior art.

Conclusion

14. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

Hand-delivered responses should be brought to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893, Monday-Thursday (9:00 AM - 5:00 PM).

Or to Nay Maung (Supervisor) whose telephone number is (571) 272-7882.

/Duc M. Nguyen/

Primary Examiner, Art Unit 2618

Jan 20, 2010